



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,430	10/31/2001	Roland M. Hochmuth	10017761-1	2418

7590 02/27/2006

L. Joy Griebenow - HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. BOX 272400
FORT COLLINS, CO 80527-2400

EXAMINER

YANG, RYAN R

ART UNIT PAPER NUMBER

2672

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/001,430	Applicant(s) HOCHMUTH ET AL.	
	Examiner Ryan R. Yang	Art Unit 2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communications: Amendment, filed on 12/2/2005.

This action is non-final.

2. Claims 1-3 and 5-33 are pending in this application. Claims 1, 12, 19, 26 and 29 are independent claims.

Applicant filed affidavit, under 37 C.F.R. 1.131, claiming priority dated 8/30/2001.

3. The present title of the invention is "System and method for communicating graphics image data over a communication network" as filed originally.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-3, 5-6, 8-10, and 26-29 and 31-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Coleman et al. (US 2003/0046432), hereinafter Coleman.

Regarding claim 1, Coleman discloses a graphics adapter comprising:

a frame buffer operable to store graphics image data rendered by the graphics adapter (Figure 1, item 150 the Server Node where scrolling the frame buffer ([0071] line 4) implies the existence of frame buffer within the server node); and

a network chip coupled to the frame buffer, the network chip comprising:

a compression unit operable to compress graphics image data of said frame buffer into compressed graphics image data (Figure 1, item 158 contains Application Program which compresses the encoded graphical data ([0040] line 6-7); and

a network interface operable to receive at least a portion of compressed graphics image data, said network interface further operable to format said received compressed graphics image data into a plurality of packets for transmission over a communication network (Figure 1, item 164 and ""The compressed data is subsequently bundled into the transport protocol packet and transmitted to the client node" [0046] line 16-17).

6. Regarding claim 2, Coleman demonstrated all the elements as disclosed in the rejected claims 1, and further discloses a network interface port coupled to said network interface, said plurality of packets being transmitted from said network interface to said communication network via network interface port (Figure 1, where the output of Server Node 1 is a network interface port).

7. Regarding claim 3, Coleman demonstrated all the elements as disclosed in the rejected claim 2, and further discloses said network interface port is selected from the group consisting of an Ethernet port, an Infiniband port, and a wireless network transceiver ("The network 140 can be a local-area network ... and wireless connections" [0034] line 6-13).

8. Regarding claim 5, Coleman demonstrated all the elements as disclosed in the rejected claim 1, and further discloses said network interface operable to receive said compressed graphics image data from said compression unit (since the transmitted data is compressed).

9. Regarding claim 6, Coleman demonstrated all the elements as disclosed in the rejected claim 1, and further discloses a video transmitter operable to transmit graphics image data from said frame buffer to a processor-based system associated with said

Art Unit: 2672

graphics adapter ("Upon receipt and decompression, the client agent 118 decodes the encoded data 414", [0053] line 12-24).

10. Regarding claim 8, Coleman demonstrated all the elements as disclosed in the rejected claim 6, and further discloses a video output port coupled to video transmitter, said graphics image data being transmitted from said frame buffer via said video output port (Figure 1, where the output of Server Node 1 is a network interface port).

11. Regarding claim 9, Coleman demonstrated all the elements as disclosed in the rejected claim 8, and further discloses video output port is selected from the group consisting of an analog video port and a digital video port (since the data is packetized, it is inherent digital, therefore the transmitting port is inherently a digital port).

12. Regarding claim 10, Coleman demonstrated all the elements as disclosed in the rejected claim 1, and further discloses said plurality of packets being transmitted to at least one destination device (Figure 1, Client Node 1 ...p).

13. Regarding claims 26-27, claims 26-27 are similar in scope to the claims 1-2, and thus the rejections to claims 1-2 hereinabove are also applicable to claims 26-27.

14. Regarding claim 28, claim 28 is similar in scope to the claim 3, and thus the rejections to claim 3 hereinabove is also applicable to claim 28.

15. Regarding claim 29, claim 29 is similar in scope to the claim 1, and thus the rejections to claim 1 hereinabove is also applicable to claim 29.

16. Regarding claim 31, claim 31 is similar in scope to the claim 2, and thus the rejections to claim 2 hereinabove is also applicable to claim 31.

Art Unit: 2672

17. Regarding claim 32, Coleman demonstrated all the elements as disclosed in the rejected claim 1, and further discloses that the graphics unit adapted to render the graphics image data based on an instruction from a source device for the graphics image data ("The display presentation program uses commands and data sent to it by the application server 150 across the network 140 to render a graphical display", [0035] line 8-10).

18. Regarding claim 33, Coleman demonstrated all the elements as disclosed in the rejected claim 29, and further discloses that the network interface is operable to format compressed graphics image data received from said frame buffer into a plurality of packets (Figure 1, item 164 and ""The compressed data is subsequently bundled into the transport protocol packet and transmitted to the client node" [0046] line 16-17).

19. Claims 12-16 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Alexander et al (5,467,459).

Regarding claim 12, Alexander et al., hereinafter Alexander, discloses a method of transmitting graphics image data over a communication network, comprising:

Logically dividing a frame buffer of a graphics adapter into a plurality of segments, at least one segment of said plurality of segments storing graphics image data rendered by the graphics adapter and corresponding to a particular destination device of a plurality of destination devices (Figure 10, item 168 is a frame buffer; "The invention can be utilized to tag data in any system that includes memory space that is assigned to a set of destination devices and that can be partitioned so that each address space partition has a logical meaning", column 22, line 41-44);

selecting the at least one segment of said plurality of segments corresponding to the particular destination device of said plurality of destination devices (where the tagging of each segment of the image data identify a corresponding destination); and

formatting at least a portion of said graphics image data stored in said selected at least one segment into a plurality of packets for transmission by a network interface of said graphics adapter to said destination device over said communication network ("concatenating a first portion of the shared processor address output with a byte of the shared processor data output to form a data packet", column 24, line 4-6, and Figure 9 is a communication network).

20. Regarding claim 13, Alexander demonstrated all the elements as disclosed in the rejected claim 12, and further discloses transmitting said plurality of packets to said destination device over said communication network. ("identifying a device from the tag portion, and extracts the transmitted data from the tagged data and transmits the retrieved data to the identified device", column 6, line 1-3).

21. Regarding claims 14-15, Alexander demonstrated all the elements as disclosed in the rejected claim 12, and further discloses that receiving an update request from destination device of plurality of destination devices prior to selecting step and selecting step comprising selecting, in response to receiving update request, segment of plurality of segments corresponding to destination device of plurality of destination devices. ("If the region tag is not matched at block 100, then a region of data in the cache must be replaced by a section of data associated with the requested address", column 11, line 21-23, where a region of data is a segment of data).

22. Regarding claim 16, Alexander demonstrated all the elements as disclosed in the rejected claim 12, and further discloses that adding identification information identifying said particular destination device to each of plurality of packets (where the tag is identification information).

23. Regarding claim 18, Alexander discloses that transmitting plurality of packets to another destination device of plurality of destination devices (since there is at least one destination device).

24. Claims 7 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coleman et al..

Regarding claim 7, Coleman demonstrated all the elements as disclosed in the rejected claim 6.

As for said video transmitter is selected from the group consisting of a RAMDAC and a DVI transmitter, since such features are notoriously well-known (Official Notice), in order to permit many more modes which can be placed farther apart, to fully support additional bandwidth, to conveniently interconnect each nodes without physical link cables, and to improve compatibility of both analog and digital graphic data, in developing a channel-based, switched-network-topology interconnect standard, it would have been obvious to incorporate the above features into the teaching of Coleman for performing a digital video system with optimization.

Art Unit: 2672

25. Regarding claim 30, Coleman demonstrated all the elements as disclosed in the rejected claim 29.

As for integrated the graphics unit and the network interface onto a network attachable graphics chip, it is obvious to one of ordinary skill in the art to strive to make separate parts into an integrated piece in order to reduce production cost (see *In re Larson*, 340 F.2d 965, 968. 144 USPQ 347.

26. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Coleman et al. as applied to claim 1 above, and further in view of Alexander et al.

Regarding claim 11, Coleman demonstrated all the elements as disclosed in the rejected claim 1.

Coleman discloses a method of transmitting packetized data. It is noted that Coleman does not explicitly disclose a first selected plurality of plurality of packets is for transmission to a first destination device and a second selected plurality of plurality of packets is for transmission to a second destination device, however, this is known in the art as taught by Alexander et al., hereinafter Alexander. Alexander discloses a method of transmitting image data in which "The invention can be utilized to tag data in any system that includes memory space that is assigned to a set of destination devices" (column 22, line 41-42; Figure 10).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Alexander into Coleman because Coleman discloses a method transmitting packetized data and Alexandria the packetized data can be addressed to a particular destination in order send data to a desired destination.

27. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Coleman et al..

Regarding claim 17, Alexander demonstrated all the elements as disclosed in the rejected claim 16.

As for Internet Protocol (IP), since it is notoriously well known (Official Notice) that IP is used to identify a destination device, it would have been obvious to one of ordinary skill in the art to used it in order to send data to a desired location.

Claim Rejections - 35 USC § 103

28. Claims 19-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Salesky et al. (6,343,313).

As per claim 19, Salesky et al, hereinafter Salesky, discloses a method of transmitting graphics image data over a communication network, comprising: comparing graphics image data of a new image for a particular destination device of a plurality of destination devices with graphics image data of a previous image for particular destination device stored in a frame buffer of a graphics adapter remote from said particular destination device (Figure 4b shows comparison of image block stored in a frame buffer; and Figure 6B shows Attendee client 18 as a particular destination device), said graphics adapter rendering said graphics image data for said new image

and previous image ("the blocks are constantly scanned from left to right", column 17, line 7-8, where scanning is a rendering process);

selecting blocks of graphics image data of new image that are different from corresponding blocks of graphics image data of previous image (Figure 4C where the data block is compared and stored); and

formatting, by said graphics adapter, said selected blocks of graphics image data of said new image into a plurality of packets for transmission by a network interface of said graphics adapter over said communication network (Figure 5 where data block is compressed and coded (Compress/Transcode) and send to Network Handling; and "At the server, a queue of data packets is maintained and is filled from an input filter and drained by output filters, one for each attendee client. The input filter and each output filter can run at its own speed. An output filter feeding a client connected over a slow network will not send every packet from the queue, but will skip over old information", column 17, line 66- column 18, line 4. Thus, the compressed data is packetized).

29. Regarding claim 20, Salesky discloses that transmitting plurality of packets to said particular destination device over said communication network (Figure 5 where data block is compressed and coded (Compress/Transcode) and send to Network Handling; and "At the server, a queue of data packets is maintained and is filled from an input filter and drained by output filters, one for each attendee client. The input filter and each output filter can run at its own speed. An output filter feeding a client connected over a slow network will not send every packet from the queue, but will skip over old information", column 17, line 66- column 18, line 4. Thus, the compressed data is

Art Unit: 2672

packetized).

30. Regarding claim 21, Salesky discloses that compressing said selected blocks of graphics image data prior to formatting selected blocks of graphics image data (Figure 5 where data block is compressed and coded (Compress/Transcode) and send to Network Handling).

31. Regarding claims 22-23, Salesky discloses that adding identification information identifying selected blocks to plurality of packets and identification information comprises block numbers for selected blocks ("A block that has changed is passed to conference server 14 after it has undergone possibly two transformations and received identification marking ("ID stamps"), column 7, line 40-43).

31. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salesky et al. (6,343,313).

Regarding claim 24, Salesky demonstrated all the elements as disclosed in the rejected claim 22.

As for identification information comprises coordinate information for a plurality of corners of said selected blocks, since it is notoriously well known (Official Notice) in the art that a image block could be identified by its corner points, it would have been obvious to one of ordinary skill in the art to use such method in order to identify an image block.

32. Regarding claim 25, Salesky demonstrated all the elements as disclosed in the rejected claim 20.

As for waiting for a request for graphics image data from at least one of at least one destination device, since it is notoriously well in the art (Official Notice) that image is transmitted upon request, it is obvious to one of ordinary skill in the art to use the method in order to properly transfer image data.

Response to Arguments/Amendments

33. Applicant's arguments with respect to claims 1-3 and 5-33 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Inquiries

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan R Yang whose telephone number is (571) 272-7666. The examiner can normally be reached on M-F 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Art Unit: 2672

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ryan Yang
Primary Examiner
February 21, 2006

